ABBREVIATIONS

AC	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AF	AFTER FILTER
AFCE	AIR FLOW CONTROL VALVE
AFM	AIR FLOW MEASURING DEVICE
AFW	AIR FOIL WHEEL
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AP	ACCESS PANEL
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CONVERTOR
CC	COOLING COIL
CD	CONDENSATE DRAIN
CF	CENTRIFUGAL FAN
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CO	CLEAN OUT
COMP	COMPRESSOR
CONV	CONVECTOR
CON	CONSTRUCTION
CP	CONDENSATE PUMP
CR	CEILING REGISTER
CW	COLD WATER
Db	DRY BULB TEMPERATURE
dB	DECIBELS
DN	DOWN
Dp	DEWPOINT TEMPERATURE
EA	EXHAUST AIR
ECC	ENGINEERING CONTROL CENTER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EMD	END OF MAIN DRIP (STEAM)
ET	EXPANSION TANK
EX	EXISTING
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FLR	FLOOR
F&T	FLOAT AND THERMOSTAIC
HC	HEATING COIL
HP	HORSEPOWER
HPR	HIGH PRESSURE STEAM CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IB	INVERTED BUCKET
LCD	LINEAR CEILING DIFFUSER
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM
LBS/HR	POUNDS PER HOUR
MBH	1,000 BTUH
MPR	MEDIUM PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM
MAX	MAXIMUM
MIN	MINIMUM
NOM.	NOMINAL
OA	OUTDOOR AIR
PC	PUMPED CONDENSATE
PD	PRESSURE DROP
PF	PRE-FILTER
PH	PREHEAT
PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR
RF	RETURN FAN
RH	REHEAT COIL
Rh	RELATIVE HUMIDITY
SA	SUPPLY AIR
SD	SMOKE DAMPER
Sp. Gr.	SPECIFIC GRAVITY
SH	STEAM HUMIDIFIER
SP	STATIC PRESSURE
SPS	STATIC PRESSURE SENSOR
ST	STEAM
TRANS	TRANSFER
UON	UNLESS OTHERWISE NOTED
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
Wb	WET BULB TEMPERATURE
WR	2-PIPE WATER RETURN
WS	2-PIPE WATER SUPPLY

DUCTWORK SYMBOLS

UP DN SUPPLY DUCT (UP & DOWN)

UP DN RETURN DUCT (UP & DOWN)

UP DN EXHAUST DUCT (UP & DOWN)

CEILING DIFFUSERS AND RETURNS

EXHAUST GRILLES

FLEXIBLE CONNECTION

VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)

STANDARD RADIUS ELBOW

10x8 NEW DUCT (WIDTH x DEPTH)

VD MANUAL VOLUME DAMPER

DUCTWORK SYMBOLS

- EXISTING SUPPLY DUCTWORK
- NEW SUPPLY DUCTWORK
- SUPPLY DUCTWORK FOR DEMO
- EXISTING RETURN DUCTWORK
- NEW RETURN DUCTWORK
- RETURN DUCTWORK FOR DEMO
- EXISTING EXHAUST DUCTWORK
- NEW EXHAUST DUCTWORK
- EXHAUST DUCTWORK FOR DEMO

DEVICE SYMBOLS

2-PIPE FAN COIL UNIT, SERVICE CLEARANCE SHOWN AS DASHED

T THERMOSTAT

END OF DEMOLITION

POINT OF CONNECTION

PIPING SYMBOLS

- EXISTING 2-PIPE WATER S&R
- NEW 2-PIPE WATER S&R
- 2-PIPE WATER S&R FOR DEMO

GENERAL SYMBOLS

- DIRECTION OF FLOW
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- RISE OR DROP IN PIPE
- UNION
- STRAINER
- THERMOMETER
- PRESSURE GAGE

VALVE SYMBOLS

- BALL VALVE (<4")
- BUTTERFLY VALVE (>=4")
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- BALANCING VALVE
- CIRCUIT SETTER
- STRAIGHT-THRU MODULATING CONTROL VALVE
- 3-WAY MODULATING CONTROL VALVE
- MANUAL AIR VENT
- TEST PLUG (PRESSURE/TEMPERATURE)

GENERAL NOTES

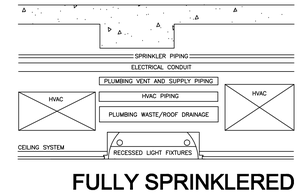
1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
3. ACCESS PANELS IN GYP & PLASTER CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
4. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
5. FOR TYPICAL STEAM, WATER AND REFRIGERANT PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
6. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
8. CONTROLS TO BE INSTALLED AS AN EXTENSION OF THE EXISTING CAMPUS JOHNSON METASYS CONTROL SYSTEM. CONTROL SIGNALS SHALL BE PROCESSED AT THE SUB-SYSTEM LEVEL (DCP) AND STATUS SIGNALS ARE TO BE SENT TO THE ECC. THE ECC SHALL HAVE THE ABILITY TO OVERRIDE SUB-SYSTEM COMMANDS. REFER TO SPECIFICATION SECTION 15902 FOR ADDITIONAL DETAILS.
9. REFER TO SPECIFICATION SECTION 095100 'ACOUSTICAL CEILINGS' FOR TAGGING OF VALVES, EQUIPMENT, ETC... ABOVE CEILINGS.
10. ALL ABANDONED MECHANICAL EQUIPMENT FOUND WITHIN THE CONSTRUCTION LIMITS IS TO BE REMOVED BY THE CONTRACTOR DURING DEMOLITION.

DUCT PRESSURE CLASS TABLE

DUCT INVOLVED	POSITIVE (P) OR NEGATIVE (N) PRESSURE	MINIMUM PRESSURE CLASS W.G. IN.
FROM SMOKE DAMPER TO ROOM OUTLETS	P	2
FROM ROOM OUTLETS TO EXHAUST FAN	N	2

DUCT LEAKAGE CLASSIFICATION AND ALLOWABLE LEAKAGE TABLE

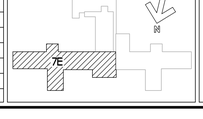
DUCT PRESSURE CLASS, W.G. IN	SEAL CLASS	APPLICABLE SEALING	SMACNA LEAKAGE CLASS	
			RECTANGULAR DUCT	ROUND DUCT
1/2", 1", 2"	C	TRAVERSE JOINTS ONLY	24	12



FULLY SPRINKLERED FOR CONSTRUCTION

Revisions:	Date

KEY PLAN:



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